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EXAMINER	
ABDI, AMARA	
ART UNIT	**PAPER NUMBER**
2609	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/764,335	STEINBERG ET AL.	
	Examiner	Art Unit	
	Amara Abdi	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01/22/2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :09/28/2004 09/30/2004.

DETAILED ACTION

Claim Objections

1. Claims 3-4,10-11,22-23,29-32, and 39-42 are objected to because of the following informalities:

(1) Claim 3, line 2, "**an** acquired" should be changed to "**the** acquired"

(2) Claim 10, line 2, "**a** known" should be changed to "**the** known"

(3) Claim 19, line 1, "**said** focal length" should be changed to "**a** focal length"

(4) Claim 22, line 3, "**an** acquired" should be changed to "**the** acquired"

(5) Claim 29, line 2, "**a** known" should be changed to "**the** known"

(6) Claim 39, line 2, "**a** known' should be changed to "**the** known"

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-14 and 17-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(1) Claim 1, line 5, recite limitation "individual acquired digital images". There is insufficient antecedent basis for the limitation in the claim. The "individual acquired digital images" is not introduced before. It is unclear if this limitation of the claim is intended to refer to "acquired digital image data" on line 4 of claim 1. However, the

"**individual** acquired digital images" differs from "acquired digital image data". The examiner suggests changing "individual acquired digital images" to "acquired digital images". The same problem applies to **claim 34**, line 5.

Also on line 8 of claim 1, recite limitation "the image data that have been determined". There is insufficient antecedent basis for the limitation in the claim. The " image data" is not introduced before. It is unclear if this limitation of the claim is intended to refer to "**acquired** digital image data" on line 4 of claim 1. The examiner suggests inserting "**acquired** " before "image data" for clarification.

The same problem applies to **claim 17**, line 10 and **claim 34**, line 7.

(2) Claim 17, line 5, recite limitation "said image". There is insufficient antecedent basis for the limitation in the claim. It is unclear if this limitation of the claim is intended to refer to "acquired digital image" on line 4 of claim 17. However, the "image" differs from "**acquired digital** image". The examiner suggests inserting "acquired digital" before the "image" for clarification.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-48 are rejected under 35 U.S.C 101 because the claimed invention are directed to non-statutory subject matter.

Claims 1-48 are directed entirely to the various set of data and do not define any functional interrelationships between any of the data elements that make up the "database".

Consequently, the claims merely define the data per se, and do not define functional description material capable of imparting useful functionality to a general-purpose computer or derive.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-13,15-17,22-43, and 45-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Morimoto et al. (US 6,418,235)

(1) Regarding claim 1:

As shown in figure 4, Morimoto et al. disclose a database of face print data corresponding to detected face regions within images acquired (column 1, line 10-11) with an image acquisition device (13 in figure 1, column 3, line 4) and digitally-embedded within one or more digital storage media (21 in figure 2,column 3, line 24-25), comprising:

(a) an image data component including acquired digital image data including content data and unique identifiers corresponding to individual acquired digital images

or face regions therein, or both; (column 1, line 47-49), (the examiner interpreted the extracted mean as the image data component)

(b) an identity data component including an identification listing of known identities to which identified face regions detected within the image data have been determined to correspond; (column 1, line 45-47), (the examiner interpreted the storage means as the identity data component)

(c) a face recognition data component, comprising for an individual known identity: (column 1, line 49-54), (the examiner interpreted the collation means as the face recognition data component)

(i) an appearance table including one or more identity entries for the known Identity, (column 3, line 59-61), (the examiner interpreted that the table of figure 3, comprises an appearance characteristics corresponding to the identities entries)

(ii) one or more identity tables corresponding to the one or more identity entries in the appearance table; (column 3, line 3, line 48-50), (the examiner interpreted that the table of figure 3 comprises the identity characteristics normalized face regions identified within the acquired digital image. (Column 3, line 56-67), (the examiner interpreted that table of figure 3 has the face class table corresponding to the appearance table)

(iii) one or more face class tables corresponding to one or more face class entries of the one or more identity tables, where each face class table comprises one or more face print image entries corresponding to face prints determined from corresponding to face print image entries, and the face region is normalized by the image processing unit 26

of figure 2, also the examiner interpreted that table of figure 3 has the combination of all the different tables recited in claim 1 just in one table).

(2) Regarding claim 34:

As shown in figure 4, Morimoto et al. disclose a database of face print data corresponding to detected face regions within images acquired (column 1, line 10-11) with an image acquisition device (13 in figure 1, column 3, line 4) and digitally-embedded within one or more digital storage media (21 in figure 2,column 3, line 24-25), comprising:

(a) an image data component including acquired digital image data including content data and unique identifiers corresponding to individual acquired digital images or face regions therein, or both; (column 1, line 47-49), (the examiner interpreted the extracted mean as the image data component)

(b) an identity data component including an identification listing of known identities to which identified face regions detected within the image data have been determined to correspond; (column 1, line 45-47), (the examiner interpreted the storage means as the identity data component)

(c) a face recognition data component, comprising for an individual known identity: (column 1, line 49-54), (the examiner interpreted the collation means as the face recognition data component)

(i) one or more identity tables corresponding to one or more identities, wherein each identity table comprises one or more face class entries each defined by values of one or more face classifier parameters (figure 3, column 3, line 44-46), (the examiner

interpreted the table of figure 3 as the combination of identity table and face class entries)

(ii) one or more face class tables corresponding to the one or more face class entries of the one or more identity tables, wherein each face class table comprises one or more face print image entries corresponding to faceprints from the acquired digital image data. (Column 3, line 50-52), (the examiner interpreted that the table of figure 3 comprises face class table which comprises face print image entries)

(3) Regarding claims 2 and 35:

The database where the image data component further comprises an image list of the acquired digital image data (column 4, line 13-17), (the examiner interpreted the list of acquired digital image data as the attribute data)

(4) Regarding claim 17:

As shown in figure 4, Morimoto et al. disclose a database of face print data corresponding to detected face regions within images acquired (column 1, line 10-11) with an image acquisition device (13 in figure 1, column 3, line 4) and digitally-embedded within one or more digital storage media (21 in figure 2,column 3, line 24-25), comprising:

(a) an image data component including acquired digital image, or a pointer to the location of said image (column 1, line 47-49), (the examiner interpreted the extracted mean as the image data component), and additional data associated with said image (column 1, line 48), (the examiner interpreted additional data as an attribute data) including content data (column 3, line 50-52), (the examiner interpreted the face data as

content data) and unique identifiers (column 3, line 44-46), (the examiner interpreted the personal data as unique identifier, such as a given name of person to be registered and registration item) corresponding to the acquired digital images or face regions therein, or both, and wherein the image data component further comprises an image list of the acquired digital image data (column 4, line 13-17), (the examiner interpreted the list of acquired digital image data as the attribute data)

(b) an identity data component including an identification listing of known identities to which identified face regions detected within the image data have been determined to correspond (column 1, line 45-47), (the examiner interpreted the storage means as the identity data component)

(c) a face recognition data component, comprising for an individual known identity: (column 1, line 49-54), (the examiner interpreted the collation means as the face recognition data component)

(i) one or more identity tables corresponding to one or more identity entries (column 3, line 3, line 48-50), (the examiner interpreted that the table of figure 3 has the identity characteristics corresponding to the identity entries)

(ii) one or more face class tables corresponding to one or more face class entries of the one or more identity tables, wherein each face class table comprises one or more faceprint entries corresponding to normalized face regions determined from the acquired digital image (Column 3, line 56-67), (the examiner interpreted that table of figure 3 has the face class table corresponding to face class entries of the identity table, and the face region is normalized by the image processing unit 26 of figure 2, also the

examiner interpreted that table of figure 3 has the combination of all the different tables recited in claim 17 just in one table).

(5) Regarding claims 3 and 22:

The database where at least one group of image data comprises a face region list including one or more entries each corresponding to an identified face candidate region within an acquired digital image (column 3, line 28-30)

(6) Regarding claims 4 and 23:

The database, where the face region list further including one or more links, corresponding to the one or more entries, to one or more known identities within the identification listing of the identity data component (column 4, line 49-53), (the examiner interpreted the known identity within the identification listing as personal identification such address, name...)

(7) Regarding claims 5 and 24:

The database, where the image data component further comprises multiple tables

of image classification categories to which the image data are determined to belong (figure 3, column 3, line 43-55), (the examiner interpreted that the table of figure 3, has the combination of multiple tables of image classification in one table).

(8) Regarding claims 6 and 25:

The database, where the image data component further comprises a set of database links to the tables of image classification categories (column 4, line 64-65),

(the examiner interpreted the set of database as the attribute data set to the image data)

(9) Regarding claims 7,26 and 36:

The database, where the known identities correspond to handles identifying a known person (column 4, line 18-26), (the examiner interpreted that the body type data, sexuality data, and age group data are known identities stored in the storage, which are corresponding to the registered person or known person)

(10) Regarding claims 8,27 and 37:

The database, where the identity data component further comprises database links to face recognition data of the face recognition component (figure 3, column 3, line 50-55), (the examiner interpreted that the identity data comprises links to face recognition data in table of figure 3)

(11) Regarding claims 9,28 and 38:

The database, where the identity data component further comprises one or more database links to personal data associated with one or more known identities (figure 3, column 3, line 48-50), (the examiner interpreted the known identity as the given name of the registered person and has a link to personal data in table of figure 3)

(12) Regarding claims 10,29 and 39:

The database, where the identity data component comprises a table of personal data associated with a known identity (see table of figure 3), (the examiner interpreted that personal data is an attribute data which is associated with known identity, interpreted as a given name of the registered person)

(13) Regarding claims 11,31 and 41:

The database, where the identity data component further comprises a set of links to a relationship list or a group membership list or both (figure 3, column 3, line 45-46), (the examiner interpreted the registration number related to a group membership or list membership)

(14) Regarding claims 12 and 33:

The database, where each identity table comprises one or more face class entries each defined by values of one or more face classifier parameters (see table of figure 3), (the examiner interpreted face data as face class entries which is define by one or more of contour line, and area for example)

(15) Regarding claim 13 and 43:

The database, where at least two identity entries are characterized separately due to at least one distinguishing appearance characteristic (figure 4, step n3, column 4, line 15-16), (the examiner interpreted that in step n4, the attribute data includes the body type data which is interpreted as one of the distinguishing appearance that can make difference between two identities entries)

(16) Regarding claim 15 and 45:

The database, where the appearance table comprises a list of links to one or more identity tables associated with distinct appearances determined for the known identity (figure 3, column 3, line 50-55), (the examiner interpreted the distinct appearance as the body type which is associated to the identity of the person to be registered)

(17) Regarding claim 16 and 46:

The database, where the one or more identity tables further comprise one or more links corresponding to the one or more face class tables (figure 3, column 3, line 46-48), (the examiner interpreted that one or more identity data in the table such as given name or ID, has link to the face data in the table such as eyes, and position of nose)

(18) Regarding claims 30 and 40:

The database, where the personal data comprises full name, one or more address, one or more phone numbers, one or more email address, one or more web address, or combination thereof (table of figure 3, column 3, line 44-45 and line 48-50)

(19) Regarding claim 32 and 42:

The database, where the relationship list comprises data on relationships between the known identity and other identities named within the database, and wherein the group membership list comprises data on grouping of known identities based on family ties, hobbies, interests, group memberships, interpersonal relationships, or combinations thereof. (Table of figure 3, column 3, line 52-55 and line 61-67)

(20) Regarding claim 47:

The database, where the one or more face class tables comprises one or more of the previously determined value range of the one or more face classifier parameters. (Figure 3, column 3, line 44-46), (the examiner interpreted the that table of figure 3 comprise face class table which comprise a value range of face parameter)

(21) Regarding claim 48:

The database, where each value range is uniquely associated with the identified and user confirmed face region detected within the acquired digital image (column 1, line 47-49), (the examiner interpreted that the value range in the table of figure 3 is associated with the identified face region detected within the acquired digital image)

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 14 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. in view Lee et al. (US 7,092,555)

Morimoto et al. disclose all the subject matter as in claims 1 and 34 above.

However, Morimoto et al. does not disclose the database, where the appearance characteristic is distinguished as determined from a sufficient difference in value of at least one face classifier parameter between faceprints and associated normalized face region determined to correspond to the same known identity, or based on user input, or both as recited in claims 14 and 44.

Lee et al. teaches a system for recognition and authenticating human face using support vector machine, where the appearance characteristic is distinguished as determined value from face classifier parameter (column 3, line 4-6) between faceprint

and associated normalized face region (column 6, line 26-28) and correspond to the known identity (column 3, line 49)

One of ordinary skill in the art would have clearly recognized that the appearance characteristic is distinguished as determined from the value of at least face classifier parameter to correspond to the same identity (column 3, line 54-60). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system of Lee et al., which performs a face registration and authentication using face information in the system of Morimoto et al. because such feature the resources are used effectively in the authentication system achieving good performance even under restricted environments (column 9, line 5-10), one example of such performance is the time for face authentication, which is reduced as face authentication is performed (column 9, line 22-26).

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. in view of Van Zee (USPGPUB 2003/0156202)

Morimoto et al. disclose all the subject matter as in claim 17 above.

However, Morimoto et al. does not disclose one or more groups of image data include image metadata including acquisition device specific information associated with acquisition or normalization, or both, of face region corresponding to a group of image data and its associated parent image as recited in claim 18.

Van Zee teaches automatically processing digital assets of a digital camera where one or more groups of image data include image metadata (paragraph [0029],

line 8), which include specific information of face region associated with normalization (paragraph [0029], line 1).

One of ordinary skill in the art would have clearly recognized the image data comprising metadata, which is associated with the normalization (paragraph [0029], line 1-12). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system of Van Zee which comprise metadata in the system of Morimoto et al. because such feature will make the captured image accessible by the operating system of the device in the form of file system in which the captured image and metadata are organized in camera specific collection of files and directories, so the user doesn't have to connect to camera to the computer or another device (paragraph [0010], line 17-21).

11. Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. in view of Matraszek et al. (USPGPUB 2003/0122839)

Morimoto et al. disclose all the subject matter as in claims 17 and 18 above.

However, Morimoto et al. does not disclose that metadata information comprise focal length of a less coupled with a digital camera at time of image acquisition, focusing distance of the lens at time of acquisition, or effective digital camera sensor size, or combination thereof as recited in claim 19.

Matraszek et al. teaches a system where the image metadata (paragraph [0094], line 2) comprises the focal length of a lens coupled with the digital camera (paragraph [0094], line 10-11) and focusing the digital sensor size (paragraph [0053], line 4).

One of ordinary skill in the art would have clearly recognized the image metadata comprising focal length and coupled with the digital camera (paragraph [0094], line 1-10). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system o Matraszek et al. where the image metadata information comprises a focal length in the system of Morimoto et al. because such feature will provide an image format including the digital image, a user identifier, and effective information (paragraph [0015], line 1-3) as well as it will associate the effective information for multiple users with the same digital image (paragraph [0014], line 1-3)

12. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. in view of Takaragi et al. (US 6,400,470)

(1) Regarding claim 20:

Morimoto et al. disclose all the subject matter as in claim 17 above.

However, Morimoto et al. does not disclose the database, where the one or more image data groups include additional image data with circumstances of acquisition of a parent image and associated face region corresponding to the group of image data as recited in claim 20.

Takaragi et al. teaches an apparatus and method for processing images, where the image data groups include additional image data associated with the pattern and face region corresponding to the group of image data (column 3, line 16-21). (The examiner interpreted the pattern as a parent image).

One of ordinary skill in the art would have clearly recognized that the image data groups are associated to the parent image and face region corresponding to the group

of image data (column 3, line 41-46). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system for processing an image of Takaragi et al. in the system of Morimoto et al. because in such feature the pattern that is less visible or invisible to the eyes can be detected by a device with high accuracy (column 1, line 60-62), and such system is applicable to copying machines, image scanners for scanning images on an original and even to host computers directed to image processing (column 1, line 11-15)

(2) Regarding claim 21:

Morimoto et al. further disclose the database, where the circumstances comprising location of image acquisition, date and time of image acquisition, type of image acquisition device, or any post-capture image processing including red eyes correction or luminance correction, or combination thereof (column 4, line 36-40).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Battle et al. (US 2002/0113879) discloses an automatic camera method apparatus and service.

Ray et al. (US 6,940,545) disclose a face detecting camera and method.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amara Abdi whose telephone number is (571) 270-1670. The examiner can normally be reached on Monday through Friday 7:30 Am to 5:00 PM E.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on (571) 272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amara Abdi
2/08/2007

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SUPERVISORY PATENT EXAMINER